CLAIMS

1. Fertilizer formulations comprising:

I) a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) $Ca(H_2PO_4)_2$, Magnesium Phosphate (MMgP) $Mg(H_2PO_4)_2$, or mixtures thereof;

II) an alkali metal phosphate (MALP) AH_2PO_4;

III) Phosphoric Acid (PA) H_3PO_4.

2. Fertilizer formulations according to claim 1, wherein the alkali metal phosphate MALP is Monopotassium Phosphate (MKP) KH_2PO_4.

3. Fertilizer formulations according to claim 1 or 2, wherein a) the alkali metal phosphate MALP is in a molar ratio to PA that is at least the ratio corresponding to the double salt $AH_5(PO_4)_2$.

4. Fertilizer formulations according to claim 1, wherein the ratio A_2O:P_2O_5, wherein the P_2O_5 does not comprise that included in phosphate moieties of the earth-alkali metal phosphates, is from about 0.50 to about 0.80.

5. Fertilizer formulations according to claim 1, wherein the molar ratio CaO and/or MgO to P_2O_5T , wherein P_2O_5T comprises the total amount included in the formulations, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5, if the earth-alkali metal is magnesium.

6. Fertilizer formulations according to claim 5, wherein the molar ratio CaO and/or MgO to P_2O_5T, wherein the P_2O_5T comprises the total amount included in the formulations, is about 1:4.8 if the earth-alkali metal is calcium, and about 1:3.8, if the earth-alkali metal is magnesium.

7. Fertilizer compositions comprising:
a monobasic earth-alkali metal phosphate, chosen from among Calcium Phosphate (MCP) $Ca(H_2PO_4)_2$, Magnesium Phosphate (MMgP) $Mg(H_2PO_4)_2$, or mixtures thereof, and an alkali metal double salt $AH_5(PO_4)_2$, wherein A=K,Na,NH_4.

8. Fertilizer compositions according to claim 7, further comprising an alkali metal phosphate (MALP) AH_2PO_4.

9. Fertilizer compositions according to claim 7, wherein the alkali metal double salt is $KH_5(PO_4)_2$.

10. Fertilizer compositions according to claim 8, wherein the alkali metal phosphate MALP is Monopotassium Phosphate (MKP) KH_2PO_4.

11. Fertilizer compositions according to claim 7, 8 or 9, wherein the molar ratio of CaO and/or MgO to P_2O_5T, wherein the P_2O_5T comprises the total amount included in the compositions, is from 1:4.5 to 1:15.1 if the earth-alkali metal is calcium, and from 1:3.3 to 1:7.5, if the earth-alkali metal is magnesium.

12. Fertilizer compositions according to claim 11, wherein the molar ratio CaO and/or MgO to P_2O_5T, wherein the P_2O_5Tcomprises the total amount included in the compositions, is about 1:4.8 if the earth-alkali metal is calcium, and is about 1:3.8, if the earth-alkali metal is magnesium.

13. Fertilizer compositions according to claim 11, wherein the molar ratio of MALP to $AH_5(PO_4)_2$ is from zero to 60%.

14. Process for the preparation of the compositions of the invention, which comprises the steps of preparing a formulation according to any one of claims 1 to 6; introducing said formulation into a drying oven of a material resistant to the components of said formulation (particularly to the PA); and mechanically homogenizing said formulation while concurrently drying it by heating under a vacuum.